Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-18. (Canceled)

19. (Currently Amended) [[A]] An electroless substrate processing apparatus, comprising:

a ~~fluid~~ liquid impermeable evaporation shield having a plenum coupled to a low partial pressure source and adapted to be positioned over a substrate positioned on a substrate support, the ~~fluid~~ liquid impermeable evaporation shield having a ~~fluid~~ liquid retaining surface that is fluidly coupled to the low partial pressure source through the plenum and adapted to form a gap with respect to the substrate, wherein the thickness of the gap is between about 0.5 millimeters and about 4 millimeters.

20. (Previously Presented) The apparatus of claim 19, wherein the ~~fluid~~ impermeable evaporation shield is sized to have an outer diameter that is greater than or equal to an outer diameter of the substrate.

21. (Canceled)

22. (Previously Presented) The apparatus of claim 19, wherein the gap is adapted to be filled with a fluid layer.

23. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield further comprises at least one port to deliver a ~~fluid~~ liquid to form the ~~fluid~~ liquid layer.

24. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield further comprises at least one port to reclaim a ~~fluid~~ liquid on the substrate.

25. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield further comprises at least one port to deliver a ~~fluid~~ liquid to form the ~~fluid~~ liquid layer and to reclaim the ~~fluid~~ liquid on the substrate.

26. (Canceled)

27. (Currently Amended) The apparatus of claim 19, wherein the ~~fluid~~ liquid impermeable evaporation shield comprises a degassing membrane.

28-34. (Canceled)

35. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield further comprises a seal adapted to contact the substrate support.

36. (Currently Amended) The apparatus of claim 22, wherein the substrate support further comprises a seal adapted to contact the ~~fluid~~ liquid impermeable evaporation shield.

37. (Canceled)

38. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield further comprises ~~fluid~~ liquid agitation components selected from the group consisting of channels, veins, and protrusions, the ~~fluid~~ liquid agitation components being disposed on a lower surface of the ~~fluid~~ liquid impermeable evaporation shield.

39. (Currently Amended) The apparatus of claim 19, wherein the ~~fluid~~ liquid impermeable evaporation shield comprises a material selected from the group consisting of polymers, ceramics, quartz, and coated metals.

40. (Currently Amended) The apparatus of claim 19, wherein the ~~fluid~~ liquid impermeable evaporation shield comprises a polymer material.

41-95. (Canceled)

96. (Currently Amended) An [[a]] electroless substrate processing apparatus, comprising:

a moveable evaporation shield adapted to be positioned over a substrate contacting a substrate support, the moveable evaporation shield comprising a degassing membrane in communication with a plenum in communication with a low partial pressure source, wherein the moveable evaporation shield forms an adjustable gap between the degassing membrane and the substrate.

97. (Previously Presented) The apparatus of claim 96, wherein the moveable evaporation shield further comprises a plenum port coupled to the plenum.

98. (Currently Amended) [[A]] An electroless substrate processing apparatus, comprising:

an evaporation shield adapted to be positioned over a substrate disposed on a substrate support, the evaporation shield comprising a degassing membrane and a plenum in communication with the degassing membrane, wherein a gap is formed between the degassing membrane and the substrate; and

a vacuum source coupled to the plenum.

99. (Currently Amended) [[A]] An electroless substrate processing apparatus, comprising:

an evaporation shield adapted to be positioned over a substrate disposed on a substrate support, the evaporation shield comprising a degassing membrane and a plenum in communication with the degassing membrane, wherein a gap is formed between the degassing membrane and the substrate; and

a low partial pressure source coupled to the plenum.

100. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield is adapted to provide heat to the ~~fluid~~ liquid layer.

101. (Currently Amended) The apparatus of claim 22, wherein the ~~fluid~~ liquid impermeable evaporation shield is adapted to rotate.

102. (Previously Presented) The apparatus of claim 96, wherein the moveable evaporation shield is adapted to be vertically moveable.

103. (Currently Amended) The apparatus of claim 19, wherein the ~~fluid~~ liquid impermeable evaporation shield is adapted to be vertically moveable.

104. (Canceled)

105. (Currently Amended) The apparatus of claim 27, wherein the degassing membrane is in communication with the ~~fluid~~ liquid retaining surface and the plenum.

106. (Previously Presented) The apparatus of claim 19, wherein the low partial pressure source contains a low partial pressure of a defined gas.

107. (Previously Presented) The apparatus of claim 19, wherein the low partial pressure source is a vacuum.

108. (Previously Presented) The apparatus of claim 96, wherein the substrate support further comprises a heating element that is adapted to heat a substrate positioned on the substrate support.

109. (Previously Presented) The apparatus of claim 98, wherein the substrate support further comprises a heating element that is adapted to heat a substrate positioned on the substrate support.

110. (Previously Presented) The apparatus of claim 99, wherein the substrate support further comprises a heating element that is adapted to heat a substrate positioned on the substrate support.

111. (Previously Presented) The apparatus of claim 96, wherein the moveable evaporation shield further comprises a ~~fluid~~ liquid port that is in ~~fluid~~ liquid communication with one or more ~~fluid~~ liquid sources and is adapted to deliver a ~~fluid~~ liquid to the substrate contacting the substrate support.

112. (Previously Presented) The apparatus of claim 96, wherein the low partial pressure source is adapted to apply a vacuum pressure to the plenum.

113. (Previously Presented) The apparatus of claim 98, wherein a chemical processing solution positioned in the gap is in fluid communication with the degassing membrane and the substrate, wherein the chemical processing solution is selected from a group consisting of a Group IV metal containing solution, a copper containing solution, a reducing agent solution, or combinations thereof.

114. (Currently Amended) The apparatus of claim 99, wherein a chemical processing solution positioned in the gap is in fluid communication with the degassing membrane and the substrate, wherein the chemical processing solution is selected from a group consisting of a Group IV metal containing solution, a copper containing solution, a reducing agent solution, or combinations thereof.

115. (Previously Presented) The apparatus of claim 96, wherein the substrate support has a substrate supporting surface that is adapted to support and align the substrate relative to the degassing membrane during processing.

116. (New) The apparatus of claim 19, wherein the evaporation shield support further comprises an embedded heating element that is adapted to heat a liquid on the substrate.

117. (New) The apparatus of claim 96, wherein the evaporation shield support further comprises an embedded heating element that is adapted to heat a liquid on the substrate.

118. (New) The apparatus of claim 98, wherein the evaporation shield support further comprises an embedded heating element that is adapted to heat a liquid on the substrate.

119. (New) The apparatus of claim 99, wherein the evaporation shield support further comprises an embedded heating element that is adapted to heat a liquid on the substrate.

120. (New) The apparatus of claim 99, wherein the degassing membrane comprises a first surface and a second surface, wherein the first surface is in liquid communication with the plenum.

121. (New) The apparatus of claim 96, wherein the degassing membrane is adapted to remove a gaseous component from a liquid in contact with one surface of the degassing membrane.

122. (New) The apparatus of claim 96, wherein the degassing membrane is positioned substantially parallel to a processing surface of the substrate positioned on the substrate support.

123. (New) The apparatus of claim 98, wherein the degassing membrane is positioned substantially parallel to a processing surface of the substrate positioned on the substrate support.

124. (New) The apparatus of claim 99, wherein the degassing membrane is positioned substantially parallel to a processing surface of the substrate positioned on the substrate support.

125. (New) The apparatus of claim 96, wherein the gap is sized to retain a fixed amount of liquid.